Stress, Trauma and Foundations of Resilience

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COVID STRESSORS

- Exposure to infection
- Concern about infecting family members
- Additional child care/child education responsibilities
- Not knowing how to protect oneself or others
- Feeling responsible for other's lives
- Working beyond physical exhaustion
- Being bombarded by many things at once without time or ability to process

What is Stress?

- A threat from outside that requires a response to get back to a stable place. This could be physical such as infection or injury or PSYCHOLOGICAL — for example, being overwhelmed, scared or betrayed.
- Stress may threaten to overwhelm one's capacity to marshal resources and return to balance.
- Severity is determined by PREDICTABILITY and CONTROLLABILITY of the stressor (Both of these are largely absent with COVID).

Resilience—the ability to recover quickly from difficulties

Maladaptive Responses to Stress

- Exaggerated or recurrent negative thoughts, rumination or worry
- Magnification or dwelling on worst-case scenario
- These may prolong cortisol secretion and lead to dysregulation.

Effects of Acute Stress

- Adrenalin pours into bloodstream
- Heart, breathing rate and blood glucose all increase to help deal with the situation
- If threat is effectively dealt with, no long-term adverse consequences to health

What About Chronic Stress?

- The HPA [Hypothalamic (CRF) - Pituitary (ACTH) - Adrenal (Cortisol)] axis is over-activated and cortisol levels can become dysregulated.
- This is a big PROBLEM!!!
- Prolonged high cortisol levels cause cortisol to bind to immune cells leading to release of cytokines. These can cause tissue destruction.

Chronic Stress and Telomere Length

- Telomeres are a protective casing at the end of a strand of DNA.
- Each time a cell divides, it loses a bit of the telomere.
- An enzyme called telomerase helps replenish a telomere.
- Chronic stress and cortisol exposure decrease the supply of telomerase.
- If the telomere is too diminished, the cell often dies or becomes pro-inflammatory. Diminished telomeres are related to decreased immune response and lifespan.

Conditions Linked to Dysregulated Cortisol

- Diabetes
- Weight Gain
- Hypertension
- Anxiety
- Depression
- Insomnia

Chronic Cortisol Dysregulation

- Repeated surges of cortisol leads to cortisol dysregulation and CHRONIC INFLAMMATION
- Normally, cortisol plays an important role in reducing inflammation, but if it remains elevated for a period of time, it becomes dysregulated and its failure to function results in chronic inflammation.
- The word "inflammation" is from the Latin "inflammare" which means to set on fire.

Inflammation

- It is a defense reaction of the body against injury—acute inflammation consists of redness, swelling, pain and heat.
- In the analogy to fire, it clears away harmful agents and opens the way for re-growth and healing.
- However, if this process is dysregulated, the acute inflammation can become chronic with many adverse effects on health.

Chronic Inflammation is Associated With:

- Cancer
- Diabetes
- Auto immune diseases
- Obesity
- Cardiovascular Diseases
- Depression
- Dementia

Those are some of the effects of chronic stress—What if things are much worse? What about TRAUMA?

What is Trauma?

- Psychological trauma is damage to a person's mind as a result of one or more distressing events which caused overwhelming amounts of stress — exceeding the person's ability to cope or integrate the emotions involved.
- Trauma has many forms; for those who have experienced it, there can be endless visceral reminders of terror and helplessness.

Trauma—What happens in the brain?

- The brain remembers trauma in a completely different way than everything else.
- Non-traumatic memories are stored as stories with no strong visceral emotions.
- Traumatic memories are stored as flashes of intense sensory data—sounds, smells, physical sensations, heart pounding etc. These memories are linked to the emotional side of the brain, not the rational part.

Right Brain vs Left Brain

- The left brain is logical, linear and language based. It develops stories to explain events and experiences. It focuses on solving problems but does not see the whole picture. It runs at 5 cycles/second.
- The right brain sees the whole picture, and thinks in pictures. It facilitates individual and group identity, emotional attunement to others and relational attachments. It assesses external and internal surroundings. It runs at 6 cycles/second.

Trauma and the Brain

- During severe trauma, the brain's rational thought and analysis can be shorted out—this prevents making rational sense of the experience. Further, when remembering the trauma, the mind is often unable to bring the rational part of the brain back on line. If people are not able to engage their frontal cortex, they just keep freaking out.
- No matter how much insight and understanding we develop, the rational brain is impotent to talk the emotional brain out of its own reality.

Normal Initial Reactions to Trauma

- Exhaustion
- Confusion
- Sadness
- Anxiety
- Agitation
- Numbness—related to compassion fatigue
- Dissociation—detached, unavailable—shut self off in order to survive
- Heightened physical arousal—racing heart, shaking
- Blunted affect—makes it harder to connect

More Severe Responses

- Continuous distress without periods of calm
- Severe dissociation (the experience of one's attention and emotions being detached from the environment)
- Intense, intrusive recollections that continue despite return to safety
- Disturbing nightmares
- Avoidance of emotions, sensations or activities associated with the trauma

Group Trauma

- Different experience than individual trauma
- Tend to keep experiences within the group, thinking that others outside the group will not understand
- Those outside the group are often viewed as intruders
- Members may encourage each other to shut down and repress experiences

Group Trauma

- Members may discourage each other from seeking help because there is a fear of shaming the group.
- They may see getting help as a violation of group confidentiality.

Trauma Treatment

- Cognitive Behavior Therapy, Cognitive Processing Therapy, Cognitive Therapy and Prolonged Exposure Therapy are evidence based treatments.
- Find ways to calm body and mind—mindfulness, meditation/breathing techniques, creating safe-place visualizations.
- Learn to maintain calm when triggered—change the pictures that are in one's mind; pictures speak to the right brain rather than the left brain.
- Find ways to be present and connected with others.

Point Man Outpost

- Over the past 20 years, Gene and Karolyn Roles have had 5,000 veterans being treated for PTSD in their home in Topeka for dinner
- They are trained therapists, but offer listening, friendship and hospitality
- When the 7 week program is completed, they receive a new dog tag that says "FORGIVEN".

Resilient People:

- Are compassionate with themselves and others—stay in "relational mode" if possible and are aware of "problem solving mode"
- Let go of perfectionism
- Let go of bitterness and grudges
- Let go of what they can't control
- Take time to share their grief with people who are attuned
- Take time for play and joyful experiences

Resilient People also:

- Know which thoughts to believe—thoughts are simply thoughts, mental events generated by the mind. Be curious and discerning; develop the habit of observing rather than engaging every thought. This is at the heart of mindfulness; heightening our awareness of the stories we are caught up in. Learning to step out of these stories when they lead us to negative conclusions is key to building resilience.
- Lean into gratitude—research proven benefits are increased empathy and decreased aches, pains and depression, and improvement in sleep, well being and relationships
- Remember life is short—appreciate and pay attention to your loved ones
- Value supportive community—battle buddies

Foundations of Resilience

- Joy Strength
- Healthy Relationships/Community
- Sleep
- Exercise
- Diet


understand
construction

"The roots of resilience are to be found in the sense of being understood by, and existing in the mind and heart of a loving, attuned and self-possessed other."

"Inadequate joy strength leads to the inability to regulate the intensity of feelings, which is the most far reaching effect of early trauma."

-Bessel Van der Kolk, The Body Keeps the Score

Another way to think about this:

Joy is the energy your brain was designed to run on.

What Fuel Does Your Brain Run On?

- Fear?
- Anger?
- Despair?
- Shame?
- Joy?

Fear?

So This is how I DIE!

Anger?

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Despair?

—

Shame?

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Joy?

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Joy Fuel

- The high performance fuel *your* brain was designed to run on.
- Means of Production: 1) face to face *eye* contact with someone who is attuned and glad to be with *you*. 2) intentional gratitude 3) collecting *joy* filled memories (more on this later)

Oxytocin

- Oxytocin gives people a sense of well-being, trust, empathy and connection.
- Oxytocin has an inverse relationship with cortisol.
- Eye contact, touch and crying increase oxytocin, causing cortisol to decrease.

- Is it possible to change fuel???
- What would it require to shift to Joy fuel?

Shifting Fuel

- Attunement and Synchronization are keys.
- Attunement is when someone reads the expression on my face and expresses it on their face. This is like matching the frequency of a tuning fork's vibration.
- If an attuned person can match my negative emotion and then help me get back to joy, this enlarges the Joy center in my ROPFC (behind the right eye)
- Synchronization is when phases of joy and calm are in time with another person's. When a person is out of sync with another, it does not build joy strength.

Another Way to Build Joy Strength

- Intentional Gratitude—develop a set of joyful memories that you can return to again and again. Remember the physical sensations you had and re-live the memory with the body feelings. If you can sense a connection with God, pay attention to this.
- If you practice this for 5 minutes three times a day for a month, your brain will be changed. Your joy center will be strengthened; joy becomes the default mode in your brain, the fuel your brain runs on.

Sleep

Truly an amazing gift
During sleep, the brain clears all the waste that accumulates during waking hours.

Sleep Robbers

- Alcohol fragments sleep making it less restorative. It is one of the most potent suppressors of REM sleep. This is related to DTs in alcohol withdrawal.
- Caffeine can affect sleep 14 hours or more after consumption.
- Screen time—TV, computer and cell phone use before bedtime all interfere with melatonin release which is necessary to sleep. Consider journaling or listening to music or reading/listening to a book before bed.

Natural Sleep

- One of the most powerful boosters of the immune system!
- In study with virus squirted up the nose, the difference between 5 hours (infection rate 50%) average sleep the previous week vs. 7 hours (infection rate 18%).
- For subjects receiving the flu vaccine, those sleeping at least 7 hours nightly developed antibodies twice as high as those with 4 hours.
- For professional athletes, 6 hours vs. 9 hours/night translates into injury rate 75% vs. 15%.

More on Sleep

- A widespread misconception exists that 6 hours nightly is enough.
- Research is very clear that everyone needs 7-8 hours nightly
- Subjects who are deprived of sleep for 24 hours have 400% increase in concentration lapses lasting a few seconds—enough to cause auto accident.
- Subjects averaging 6 hours per night have performance that is degraded as much as someone who had not slept at all for 24 hours.

Another Sleep Misconception

- Many people think they know when their performance is affected by sleep deprivation—research shows that subjects consistently underestimate their degree of impairment.

Chronic Sleep Deficits

- Cause impaired concentration which can cause fatal auto accidents
- Affect virtually every system of the body
- Dementia, cancer, diabetes, obesity, hypertension, ischemic heart disease, stroke, and lowered testosterone levels are all connected with not getting 7-8 hours of sleep each night.

Exercise

- Walking or running outdoors increases BDNF (Brain Derived Neurotrophic Factor) which is like Miracle Grow for your brain!
- Regular exercise helps prevent chronic inflammation which contributes to cancer, obesity, diabetes, cardiovascular disease, autoimmune disease and dementia.

Diet

- Many recent studies show mental health benefits of increasing the diversity of gut microbiota. Yogurt and kefir, sauerkraut, kimchi and other fermented vegetables, kombucha or probiotic supplements are good sources.
- Include anti-inflammatory foods—olive oil, vegetables, fruits, fish, nuts, ginger and turmeric
- Reduce inflammatory foods—red meat, corn oil, margarine, trans fats
- Control blood sugar by eliminating sweetened beverages and refined carbohydrates.

To Sum it Up

- You are front line in a long battle.
- Joy Fuel is high performance—definitely worth the effort to train your brain to run on it and one of the best things you can do to increase your resilience.
- Consider making time for 7-8 hours of sleep every night, exercising outdoors when possible, and eating healthy food.
- Be compassionate with yourself and everyone you see—we all need grace, affirmation and healthy connections with each other.